AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for encoding video data, comprising the steps of:
dividing an image into blocks, each block including a plurality of pixels,
transforming the pixels of a block into transform coefficients ~~(W)~~, and
quantizing the transform coefficients ~~(W)~~ in accordance with predefined quantization intervals by mapping each coefficient value to a quantized coefficient value
wherein ~~characterized in that~~
the size of the quantization interval of the lowest coefficient values is adjusted in accordance with a variable dead-zone parameter ~~(Θ)~~, and
the applied dead-zone parameter ~~(Θ)~~ is included into the encoded video data for a corresponding modification of the quantization interval of the lowest coefficient values at the decoder side.

2. (Currently Amended) A method according to claim 1, wherein the size of said quantization intervals is adjusted in accordance with a rounding control parameter ~~(f)~~, said rounding control parameter ~~(f)~~ being not part of said encoded video data.

3. (Currently Amended) A method according to claim 1, wherein said dead-zone parameter ~~(Θ)~~ having a size between a fifth and a half of the interval step size.

4. (Currently Amended) A method according to claim 1, wherein said dead-zone parameter ~~(Θ)~~ having a size of approximately 1/4 of the interval size.

5. (Currently Amended) A method according to claim 1, wherein said dead-zone parameter ~~(Θ)~~ being updated every field or frame of a video sequence.

6. (Currently Amended) A method according to claim 1, wherein said dead-zone parameter ~~(Θ)~~ being updated once per video sequence to be encoded or for every predefined sub-sequences thereof.

7. (Currently Amended) A method according to claim 1, wherein said video data are encoded based on I, P or B type macroblocks and different said dead-zone parameters ~~(Θ)~~ are employed for each macroblock type.

8. (Previously Presented) A method according to claim 1, wherein said method further comprises the steps of:
detecting a degree or the presence of film grain within the video data to be encoded, and
adapting the size of said dead-zone parameter in accordance with the detection result.

9. (Previously Presented) A method according to claim 1, wherein said method further comprises the steps of:
detecting the presence of film grain within the video data to be encoded, and
enabling the application of said dead-zone parameter only if film grain has been detected.

10. (Previously Presented) A method according to claim 1, wherein said method further comprises the step of predicting the block to be encoded based on a previously encoded block wherein said prediction step comprises a decoding step including an inverse quantization step which applies said dead-zone parameter for the de-quantization.

11. (Currently Amended) An encoder for encoding video data based on image blocks, each block including a plurality of pixels, comprising:
a transformer ~~(120)~~ for transforming the pixels of a block into transform coefficients, and
a quantizer ~~(120)~~ for quantizing the coefficients in accordance with predefined quantization intervals by mapping each coefficient value to a quantized coefficient value
wherein ~~characterized in that~~
the size of the quantization interval of the lowest coefficient values being adjustable in accordance with a variable dead-zone parameter ~~(Θ)~~, and
the applied dead-zone parameter ~~(Θ)~~ being included into the encoded video data for a corresponding modification of the quantization interval of the lowest coefficient values at the decoder side.

12. (Currently Amended) An encoder according to claim 11, wherein the size of said quantization intervals being adjustable in accordance with a rounding control parameter ~~(f)~~, said rounding control parameter ~~(f)~~ being not part of said encoded video data.

13. (Currently Amended) An encoder according to claim 11, wherein said dead-zone parameter ~~(Θ)~~ having a size between a fifth and a half of the interval size.

14. (Currently Amended) An encoder according to claim 11, wherein said dead-zone parameter ~~(Θ)~~ having a size of approximately 1/4 of the interval size.

15. (Currently Amended) An encoder according to claim 11, wherein said dead-zone parameter ~~(Θ)~~ being updated every field or frame of a video sequence.

16. (Currently Amended) An encoder according to claim 11, wherein said dead-zone parameter ~~(Θ)~~ being updated once per video sequence to be encoded or for every predefined sub-sequences thereof.

17. (Currently Amended) An encoder according to claim 11, wherein said video data being encoded based on I, P or B type macroblocks and different said dead-zone parameters ~~(Θ)~~ being employed for each macroblock type.

18. (Previously Presented) An encoder according to claim 11, further comprising:
a detector for detecting a degree or the presence of film grain within the video data to be encoded, and
setting means for adapting the size of said dead-zone parameter in accordance with the detection result.

19. (Previously Presented) An encoder according to claim 11, further comprising:
a detector for detecting the presence of film grain within the video data to be encoded, and
enabling means for enabling the application of said dead-zone parameter only if film grain has been detected.

20. (Previously Presented) An encoder according to claim 11, wherein said encoder being a predictive encoder and further comprises a decoder for decoding the encoded video data, said decoding including a de-quantizer for applying said dead-zone parameter during de-quantization.

21. (Currently Amended) A method for decoding encoded video data on a block basis, said encoded video data include quantized coefficients, comprising the steps of:
de-quantizing a block of quantized coefficients of said encoded video data by mapping each quantized coefficient value to a de-quantized coefficient value in accordance with predefined de-quantization intervals, and
transforming a block of de-quantized coefficients into a block of pixels,
wherein ~~characterized in that~~
the size of the de-quantization interval of the lowest coefficient values is adjusted in accordance with a variable dead-zone parameter ~~(Θ)~~.

22. (Currently Amended) A method according to claim 21, wherein said dead-zone parameter ~~(Θ)~~ having a size between a fifth and a half of the interval step size.

23. (Currently Amended) A method according to claim 21, wherein said dead-zone parameter ~~(Θ)~~ having a size of approximately 1/4 of the interval size.

24. (Currently Amended) A method according to claim 21, wherein said dead-zone parameter ~~(Θ)~~ being updated every field or frame of a video sequence.

25. (Currently Amended) A method according to claim 21, wherein said video data being encoded as I, P or B type macroblocks, each macroblock having a different said dead-zone parameter ~~(Θ)~~.

26. (Currently Amended) A method according to claim 21, wherein said dead-zone parameter ~~(Θ)~~ being part of said encoded video data.

27. (Currently Amended) A decoder for decoding encoded video data on a block basis, said encoded video data include quantized coefficients, comprising:

an inverse quantizer ~~(220)~~ for de-quantizing a block of quantized coefficients of said encoded video data by mapping each quantized coefficient value to a de-quantized coefficient value in accordance with predefined de-quantization intervals, and

an inverse transformer ~~(220)~~ for transforming a block of de-quantized coefficients into a block of pixels,

wherein ~~characterized in that~~

the size of the de-quantization interval of the lowest coefficient values is adjusted in accordance with a variable dead-zone parameter ~~(Θ)~~.

28. (Currently Amended) A decoder according to claim 27, wherein said dead-zone parameter ~~(Θ)~~ having a size between a fifth and a half of the interval step size.

29. (Currently Amended) A decoder according to claim 27, wherein said dead-zone parameter ~~(Θ)~~ having a size of approximately 1/4 of the interval size.

30. (Currently Amended) A decoder according to claim 27, wherein said dead-zone parameter ~~(Θ)~~ being updated every field or frame of a video sequence.

31. (Currently Amended) A decoder according to claim 27, wherein said video data being encoded as I, P or B type macroblocks, each macroblock having a different said dead-zone parameter ~~(Θ)~~.

32. (Currently Amended) A decoder according to claim 27, wherein said dead-zone parameter ~~(Θ)~~ being part of said encoded video data.